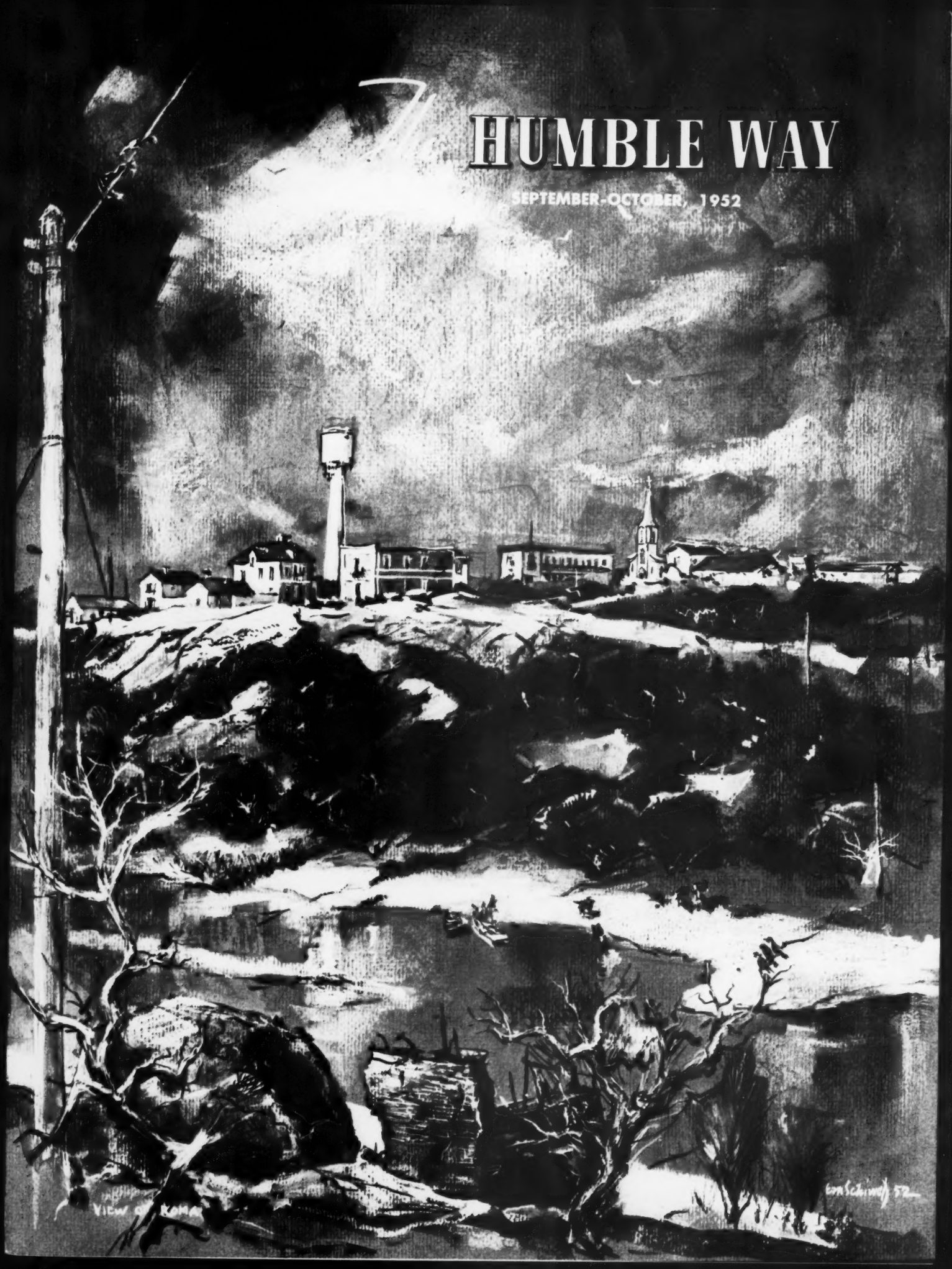
HUMBLE WAY

SEPTEMBER-OCTOBER, 1952



The HUMBLE WAY
SEPTEMBER-OCTOBER, 1952
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Statesmanship in Industry

By HINES H. BAKER
President, Humble Oil & Refining Company

ALWAYS, at all times in every age, character is a basic quality of society. There is no substitute for individual moral integrity. The statement that honesty is the best policy is good as far as it goes. But we know that honesty has more than a mere practical value; it is of great intrinsic worth; it is the basis of character. Around moral integrity cluster the other virtues and qualities which taken together with it make character.

We think of character as attaching to the individual. But it is equally important that groups have character; important that social groups, business organizations, whole industries, states, and nations have character also. We know that. And it is for this reason that we are so concerned with the breakdown of integrity and moral responsibility in high places in government. It reflects on the character of our nation. If permitted to continue and expand, it will undermine and destroy our treasured freedom and in the end destroy the nation itself.

If a business organization can have character, if an industry can have character, then the development of character in such an organization or industry is of major importance. This requires statesmanship—statesmanship of a high order.

Honesty is the best policy.
Poor Richard's Almanac

What is "Statesmanship in Industry?" To me it is a quality of leadership which develops and maintains character in industry and which persistently adheres to basic principles and employs wisdom in establishing and carrying out policy.

An industry or a business organization cannot

Address delivered at the 33rd Annual Meeting, Texas Mid-Continent Oil & Gas Association, Fort Worth, Texas, October 15, 1952.

Mechanical energy as exemplified by this cotton picking machine has been a key factor in improving our standard of living. (See Page 19.)

"One of the basic principles of industry . . . is to contribute to

build permanently on the basis of what is expedient for the moment. And if it derives its primary stimulus from predatory or greedy aims, it may prosper for a time and may even incidentally make a contribution to society; but it cannot justify its continued existence, nor will it long endure. Its very basis and its leadership do not have the quality of statesmanship. Like a government, an industry must live by principles that fix its character and control its very life. It must have standards by which it may test itself. One of the basic principles of an industry or a business organization is that it justifies its existence and will endure only if it serves a worth-while purpose and contributes to the development and progress of society. It must meet and satisfy human needs. It must promote worth-while social aims.

A COROLLARY to this principle is that for a business unit to fulfill its mission and endure it must be honest and fair in all its dealings and relationships. It must provide a quality product or service for its customers at a fair price; treat its employees with consideration in pay, hours, conditions of work, and in every relationship; seek to earn legitimately a reasonable and fair return for its stockholders; and be honest and just in its relations with competitors, government, and all others. Broadly, this principle of right relationships applies to an industry as well; for an industry is but the sum total of the several units.

This concept has in its nature a spiritual content. An industry with character will not administer merely to physical or economic human need, essential as this is, but to spiritual need as well. It contributes to life's enjoyment, to life's enrichment, to higher human values.

He profits most who serves best.
A.F. SHELDON

Let it be realized that operations for profit are fully compatible with this spiritual concept. In America, a business organization and indeed a whole industry are operated for profit. Under our competitive enterprise system they must make a profit if they are to continue to perform the service for which they were organized. Without profits in an industry, its employees cannot be secure in wages, good working conditions, or continued employment; its customers cannot enjoy improved products or lowering prices; its stockholders cannot secure a return on their investment; and the public cannot rely upon a continuing rise in the standard of living and other contributions to the general welfare.

Thus, experience teaches that industry must be efficient. But efficiency and profits alone are not enough. Profits are justified only if they arise from a business dedicated to the performance of a worth-while function in satisfying human needs and the performance of a function in the progress of society. So long as our private free enterprise and profit system is in fact grounded on this latter principle, it will go forward and endure. And it will be entitled to go forward and endure.

When motivated by this sustained desire to meet human needs and by the urge for private returns, and operating in competition with others like-minded, a business organization ventures capital, discovers resources, develops new techniques, creates products, and produces the variety of goods and services that contribute to human comfort, enjoyment, and happiness. It treats people right. It grows and prospers. It continues to justify customer and public support. It endures.

THE reason for the successful carrying out of this function is to be found in the basic attitude and spirit of those who manage the business. The attitude determines, in the first instance, what kind of business undertaking is established, whether it supplies a product or service which is useful to mankind and which will serve to raise the level of society generally. The attitude is basic and fundamental. It is the cornerstone upon which all policies are built. Attitude will determine the organization's production and sales policy, its human relationships, the manner in which it treats its customers, competitors, employees, and the public.

A proper evaluation of a company's relationships on all these points of contact determines the character of the organization. And when all the units in an industry have been evaluated by use of this yardstick, the character of the industry will be determined. All the units are placed upon the scale, the good and the bad, the progressive and the backward, the positive and the negative. The

ute to the development and progress of society."

weight of the whole determines the industry's character.

The statesman in industry has an eye for customers. He is in business primarly to **serve.** He knows that if he does this well, customers will come his way. This will likely bring a profit. But the desire for profit does not blind him to the basic purpose he has of rendering worth-while service. One motive fortifies the other. Together they produce desirable results for the customer and for business. He is constantly striving to produce a better, more useful, and attractive product or service; to provide it at lower cost. He does not shortchange his customers. He provides full quality and full measure. He seeks a happy, satisfied customer. He tries diligently to provide a long-range basis for a sound and continuing relationship mutually advantageous to him and his customer.

IN AMERICAN free enterprise, competition is the key to progress. If several business units or several industries are seeking to serve customers they must compete for patronage. This stimulates activity; it improves service; it leads to better products. Free competition has brought us the manifold conveniences we now enjoy: comfortable, high-powered cars; fast, pressurized cabin airplanes; electric and diesel-engine trains; radio and television; space heating—to mention only a few.

In our own industry, vigorous competition has brought new techniques in finding oil and gas, sound engineering in their production, cheaper transportation, continual improvement in the quality of products at lower costs to the consumer, and an improvement in general well-being. The public is the primary beneficiary of this competition existing within industry as well as between industries.

The business statesman welcomes competition. He is against monopoly, except in those businesses which are naturally monopolistic and are thus public utilities properly subject to regulation. He knows that it is competition that keeps his organization on its toes; that stimulates initiative, inventiveness, alertness, agressiveness; that keeps his organization virile, responsive to customer demand, and aware of its real mission. He knows that a monopoly stagnates, gets fat and slothful, weak.

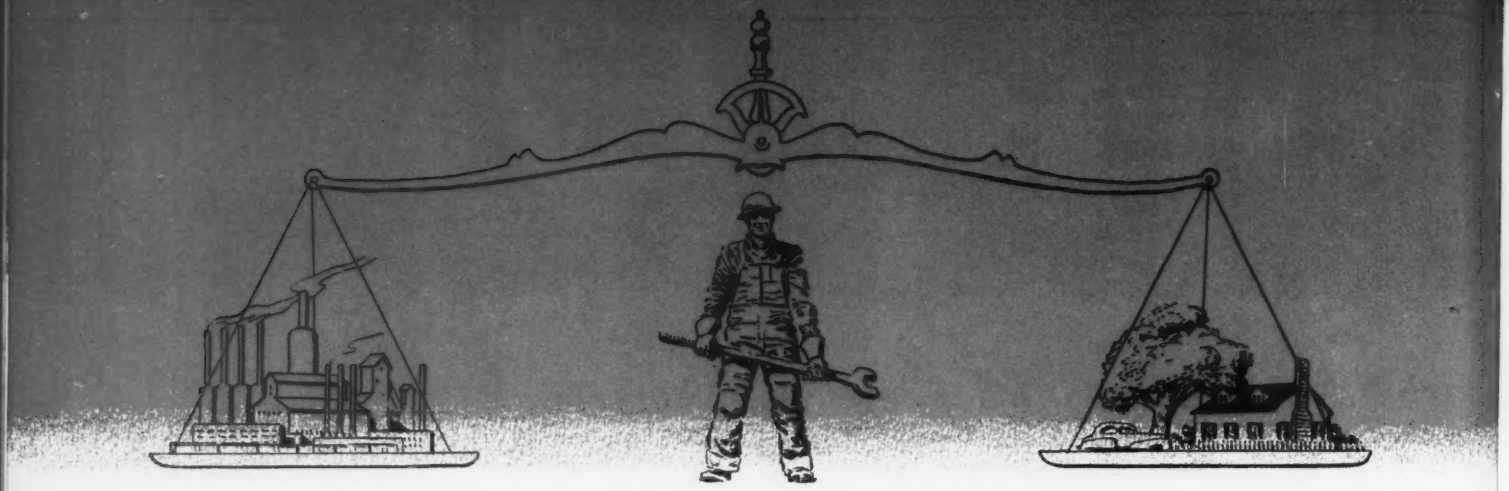
But the business statesman insists that competition be clean and fair. He insists on ethical and moral principles. He competes in accordance with the rules of the game. Free competition to him is not a form of jungle warfare; it is not "tooth and claw." It is based on a consideration for the competitor, without unfair advantage. The statesman in industry recognizes that since all businesses are not run by statesmen, the government must lay down some rules of the game, and he is willing to abide by these rules. For example, he approves reasonable laws against monopolies and combinations in restraint of trade as guideposts to business and protection to the public.

However, by stern self-discipline the business statesman avoids running to the government for help in the free competitive struggle. He avoids getting under the government's wing in order to escape battle. He knows that by these steps, he will soon have government not as an umpire but as manager. Instead of free competition, he will be faced with controls in increasing numbers; controls of production, end-use of products, wages, prices. These and similar controls defeat the operation of a free competitive economy under which these matters are determined by the interplay of the forces of supply and demand. By constantly running to government for help, many businessmen are contributing to the present step-by-step movement from a free economy into a socialized state.

Character is much easier kept than recovered.

THOMAS PAINE

THIS in no sense depreciates the importance of industry's cooperation with government in its proper field of action. Such cooperation is highly essential. And it is a matter of great satisfaction that the oil industry has done an outstanding job in this field. There is no need to recount the magnificent achievements of the industry in the field of conservation, in the creative efforts and changes made during the world wars to supply the kind, quality, and quantity of products where and when needed for our war effort. You know these full well: the dramatic story of synthetic rubber supplies when natural rubber from the East was cut off; of synthetic toluene for high explosives that made possible the bombings which won the war; of high octane aviation gasoline that gave Allied



". . . every employee is a human being of high value and worth."

planes the distance flights and extra bursts of speed to excel the enemy.

These are only a part of the contribution. You are fully familiar also with the work of the Petroleum Administration for War, the Petroleum Industry War Council, industry committees, and more recently the Petroleum Administration for Defense and the National Petroleum Council. The important thing to keep in mind is that industry insist that government stay in its legitimate sphere and that industry maintain its freedom. This is vital to the maintenance of our economic order and our way of life.

An outgrowth of business statesmanship within industry is the trade association. Competitors realize that there are fields for proper cooperative effort in collecting and distributing useful information, in improving techniques, in encouraging sound policy, in promoting clean competition, and in providing an atmosphere of understanding and good will within the industry and with the public. The Texas Mid-Continent Oil & Gas Association, adhering as it does at all times to principles, is an outstanding example of a constructive trade association.

Fundamental also are sound relations with employees. A business organization with character and statesmanship places a high value upon its personnel. It recognizes that its property and equipment will not produce goods and services for consumption unless they are skillfully and intelligently used by employees in the process of production and distribution. Its personnel, therefore, constitutes its principal asset. Hence, its treatment of employees is of primary importance. It will understand that every employee is a human being of high value and worth, with sensibilities, motives, purposes, and interests that need to be considered and respected. It will seek to develop a spirit of teamwork by which each member of the organization works with others for the achievement of the company's primary objective. Equally important, it will seek to provide a genuine satisfaction to all employees in doing their work. As happy members of a team, the employees put forth maximum effort, work more efficiently, and provide higher production and better results.

There is involved an attitude of mind and heart that holds the welfare of the employee uppermost. A reasonable implementation of such an attitude will be embraced in a policy toward employees which seeks to provide a fair day's pay for a fair day's work, healthful and safe working conditions, continuous employment, inducements to thrift, and reasonable security against sickness, accidents, and old age. Statesmanship will lead also to proper selection, orientation, training, and development of employees and the growth and succession of competent and able executives who are equipped to carry forward the organization's work in the years ahead in accordance with sound principles and policies. In industry as a whole will be found many variations from these objectives; the variance in every instance will be determined in large measure by the attitude of management and the degree of statesmanship employed.

In general, the petroleum industry stands high in its recognition of its responsibilities to employees. It is in the front ranks of those observing the policies mentioned. For example, it now has the highest employee benefits and pays annual wages among the highest of any industry group.

The business organization that achieves character through the statesmanly observance of a spiritual concept of its business mission, and carries this concept forward into all its dealings with customers, competitors, the public, and employees, lays the foundation for a continuing contribution to human welfare, a growing public acceptance, and profitable operations for itself. Its owners and management will share the satisfaction of knowing that the business is contributing to higher human values and to the progress of society. The organization will be entitled to endure. It will endure. And it will challenge the industry of which it is a part to higher achievements in statesmanship.

Were we directed from Washington when to sow and when to reap we should soon want bread... THOMAS JEFFERSON

Research scientist watches as answers emerge with quiet efficiency from mechanical brain. This electronic computer cuts weeks from time needed to solve complex engineering problems.

The Machine with a Problem Diet

Electronic computers are taking much of the drudgery from the oil industry's tedious and complex paper work

A NATIONAL magazine once ran a cartoon which went something like this: It showed a harassed engineer seated at his desk in a laboratory. The place was littered with work sheets and discarded calculations. Standing nearby were two other men, their faces clouded with frustration. One, obviously a supervisor, was saying:

"After 20 years of research, Quimby has come up with the answer. Now he's forgotten what the problem was!"

Like many another cartoon, this one is not all drollery. It has a core of truth. In the oil industry, for example, there are scores of problems so complex and tedious that they would take literally years to solve with ordinary mathematical tools. And even then, by the time you worked them out, the problems might very well be outdated or the answers meaningless in the light of later developments.

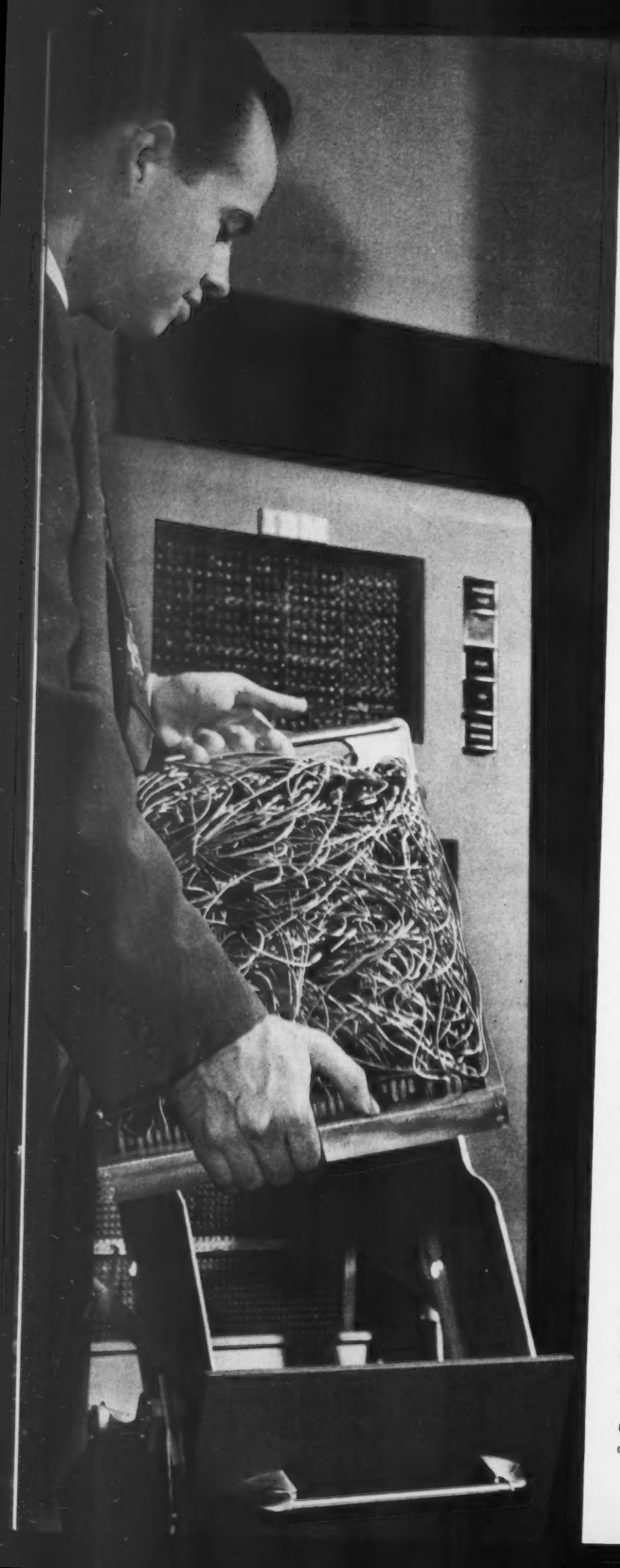
Consider a problem in reservoir engineering—one dealing, say, with the flow of gas through a sand. The behavior of the gas flow can be described with mathematical equations, but so complex are the variables that it would take one engineer, working with only a desk calculator, six years or more to come up with the answers for one particular problem.

Or take the refining process known as alkylation, one of great importance in the production of high-octane gasoline. Engineers estimate that they must make more than a million separate calculations to solve just one of the problems of alkylation. Obviously, a problem of this magnitude can not even be attempted with ordinary methods.

To counteract this sort of scientific indigestion, Humble is using a machine which thrives on a problem diet. This amazing device gulps in the most complex of problems, whirls it through a highly complicated arrangement of flashing lights, miles of wire, and hundreds of vacuum tubes, and then writes out the answer. All this is done in a fraction of the time it would take Einstein himself to do it.

Sometimes called an "electric brain," this machine is more accurately known as an electronic digital computer. In other words, it is a calculating machine that does its counting with electronic pulses—at the rate of 50,000 pulses a second! Its main skill is just simple arithmetic—addition, subtraction, multiplication, and division—but at this it has no human peer. In just five seconds, it can whiz through 1500 individual computing steps.

Whoever first called the electronic computer an electric brain tagged it with an apt nickname, for in several elementary ways its operation does parallel that of the human brain. It can do no thinking, of course, and it is pretty much of a dunce unless a plan



of action is laid out for it. But it does exercise a kind of yes-or-no logic. It decides, for instance, whether a number is smaller, larger, or equal to another number and then bases later computations on that decision. And it has the ability to remember numbers; that is, to store them in a certain part of its mechanical brain and to bring them into play when needed.

Humble's engineers and research men have two of these machines in harness, one in the main office building and the other at Baytown Refinery. Both belong to the growing family of electronic computers which sprang up during World War II and which have since performed such prodigious feats in the service of the Atomic Energy Commission, the aircraft companies, and other organizations where number-handling is a major headache. Being rather small, however, Humble's computers would rank as slow pokes if pitted against some of the larger machines now in use. Some of the latter handle up to six million pulses a second!

These robot wizards owe their blinding speed to that part of the atom known as an electron. As every student of physics knows, the speed with which an object can start or stop depends, among other things, on its mass. An automobile, for instance, is usually much faster on the getaway than a freight train. Being one of the smallest known objects in the physical world, an electron can stop or start several million times a second.

AN ELECTRONIC computer puts the electron to work activating tiny vacuum tubes which are basically similar to those in a radio set. These tubes—there are about 1500 of them in one of Humble's computers—respond accurately and instantly to electronic signals. Values of one, two, four and eight are assigned to each set of four tubes, and since the tubes are used in either an "on" or "off" condition, every digit from one through nine can be expressed by putting some combination of these four tubes in an "on" position. Multi-digit counting, of course, requires as many sets of four tubes as there are digits involved.

Sound complicated? Well, the process gets even more involved as the machine goes through a long series of mathematical gyrations, one after the other. It reads numbers and instructions from punched cards that flip through at a rate as high as a hundred and fifty cards a minute. It takes further orders from wired control panels which, to the uninitiate, look like a plateful of colored spaghetti. It performs dozens of arithmetical chores in the twinkling of an eye, files intermediate results in either electronic or mechanical memory units, uses them again and again as needed. Answers cascade out to be tabulated on a wide ribbon of paper.

Let's take a closer look at one of these electric brains—the one, say, which is comfortably ensconced in an 11th floor office of Humble's main building. Like most electronic computers, this one is made up of four units:

(1) *A computer unit* encases the banks of vacuum tubes and does the actual arithmetic computations. At one end is an open panel where tiny lights blink and skitter like those on a theater marquee. These give visual indication

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Control panel with its maze of circuits oversees operations of computing unit. Panel is shown being plugged into machine.

of the computations going on inside.

(2) *A control or programming unit* operates the control circuits and determines the sequence and kind of computations.

(3) *A memory unit* receives numbers and intermediate results and stores them until they are need by the computer. Electric relays provide a channel of communication between this unit and the computer.

(4) *An input-output unit* reads the punched cards which are fed into it and either prints computed results on paper or punches them out on other cards.

Humble's computer is of the type known as a Card Programmed Calculator. In other words, a basic program must be evolved for the solution of each problem and this is punched out on cards. Not all of the cards must be punched manually, however. Out of a deck of 10,000 cards, only a hundred, perhaps, will have to be punched manually. The machine punches the rest as it goes along, and these are then recycled through the card-reading device.

In one 200-hour problem, the computer used 120,000 punched cards! (Baytown researchers believe they will even top this. They estimate that *two tons* of cards will be needed in the solution of the alkylation problem.)

To the men who work with it, the computer is known as "the Beast." It's an affectionate epithet, though, for every month the machine saves Humble engineers hundreds of hours of pick-and-shovel number work.

"The Beast is a little slow to wake up in the morning," one engineer remarks. "The first thing every day we feed it a test deck of a thousand cards which tests practically everything the machine can do. Sometimes we have to run the deck through three times before the Beast gets fully awake and starts giving us the right answers."

THE Beast blushes with rosy confusion every time it makes an error in its test deck. At least, a red light flashes on the control panel whenever something goes wrong.

"But it's never a little error," you are told. "When the Beast makes a mistake, it's usually a whopper!" That, of course, is all to the good, for a gross error is much more noticeable than a small one.

The machine in the Houston office is operated jointly by the Production Research Division and the Petroleum Engineering Division and at present is used on two general types of problems: (1) those relating to analysis of reservoir performance, and (2) those arising in production research work. Solutions are being obtained to many problems which, because of the tremendous amount of computation involved, have hitherto been solved only for severely limited cases.

Thanks to this machine with the problem diet, gone is much of the drudgery and monotony of routine computations, formerly the bane of reservoir engineers and research men. For the Beast is not only a speed demon when it comes to handling numbers; it also never gets bored. Most important of all, however, it releases highly trained specialists for more important duties.

What is the future of electronic computers like the Beast? There is really no telling, but scientists think they point the way to more productive tomorrow. Some say they may one day help us solve some of civilization's greatest problems, ranging from atomic power to the economics of prosperity.

Engineer checks wiring of main control panel, located in tabulating unit, which governs flow of information through machine. Wiring control panel is complex job.

Blinking lights on panel of computer make visible calculations going on inside. Here engineers slow down computer to check operating sequence of new problem.

"FILL HER UP!"

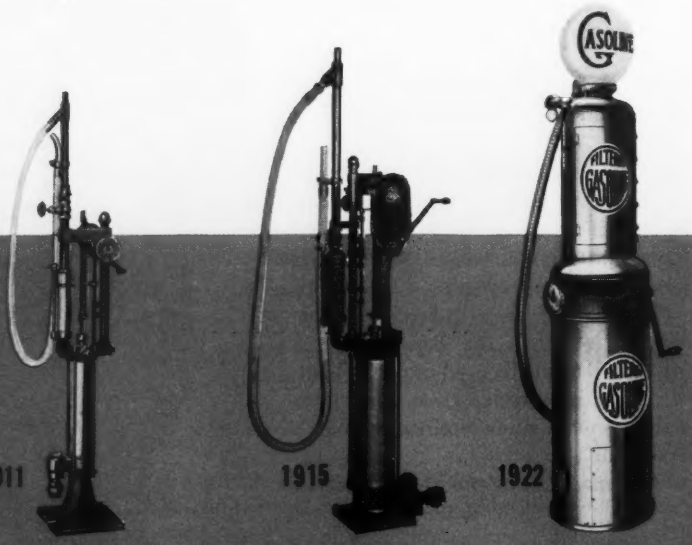
Today's gasoline pumps are a far cry from the funnel and bucket used by pioneer motorists

FOR A PIECE of equipment built to stand in one place, the gasoline pump has come a long way in the past 50 years.

There was a time, in Grandfather's day, when service station pumps—familiar symbols of our Gasoline Age—were neither as numerous nor as efficient as they are now. Only a handful of stores and blacksmith shops, uncertainly spaced about the nation, catered to the horseless carriage trade, and not

PARADE OF PROGRESS

Styles in gasoline pumps have undergone some startling changes during the past four decades. Gawky, hand-operated pumps were the first to be adopted by the oil industry. These were followed by the "visibles," tall pumps topped by gasoline-filled bowls. In the late 1920's, electric-powered models with built-in meters began to supplant the visibles and the "Strong-arm Johnnies." These yielded in turn to the modern computing types which, in recent years, have become more trim, more compact, and more attractive. The parade of progress still continues.

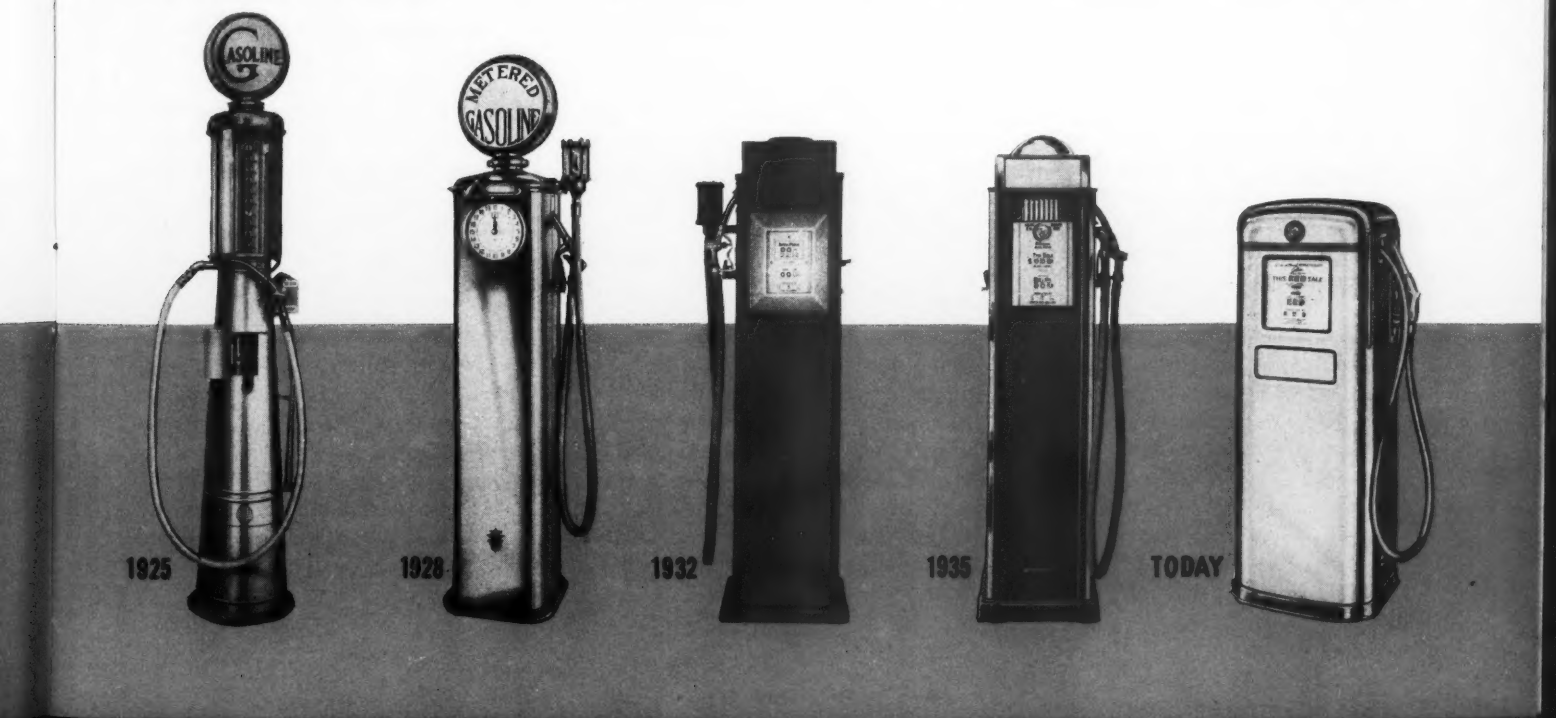


all of these could boast such an up-to-date device as a gasoline pump.

Today, however, the American landscape is studded with the gasoline pumps of some 200,000 service stations. These pumps stand alongside every highway and byway, the cornucopias of our gas-propelled era. Need gas? Wherever you are, there's bound to be a pump down the road a piece, and there some friendly marketer will help speed you on your way.

In an industry with more than its share of glamor, it's not too surprising that gasoline pumps have gone largely unsung. These same pumps, however, have had a share in making America a nation on wheels. Not only have they helped take much of the sting from running out of gas—one of the most galling and time-consuming hazards of early day motoring—but they have also helped make the purchase of gasoline one of our simplest shopping chores. Today, "the last ten feet" of gasoline's trip from oil well to consumer are traveled with fluent ease.

Grandfather never had it so good. He and the other turn-of-the-century motorists found no spic-and-span service stations with rows of pumps competing for their business. In tune with the times, a few hardware and grocery stores stocked a little gasoline, but many owners of the new-fangled machines found it much more convenient



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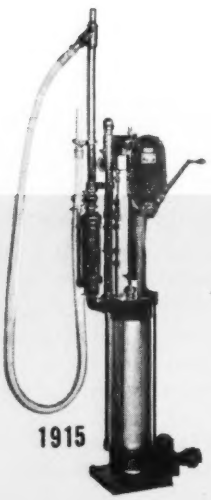
1911



1915

1922

Pump island with its modern equipment has become store counter for more than 52 million American cars, trucks, buses. This method of handling "last ten feet" of gasoline's journey makes re-fueling our car one of our simplest shopping chores.

to have "filling stations" in their own backyards. All one needed was a drum of gasoline, a bucket, a funnel, and a chamois skin.

Filling the gas tank—either at home or at the general store—was far from being the safe, speedy, efficient operation that it is today. It involved carrying the gas, bucket by bucket, to the car and dumping it in through the funnel. A chamois was used to strain out impurities, gasoline in those days being a careless by-product of the more profitable kerosene business. And since spilled gas was a not uncommon mishap, it was always the better part of valor to shoo aside the women and children before undertaking a refueling operation.

Pioneer marketers of gasoline were not long in realizing that this primitive method had a future no brighter than that of the buggy whip or the fringed-top surrey. In 1900, there were only 8,000 automobiles registered in the United States. Ten years later this figure had ballooned to 468,000. The big parade was on, and keeping pace with this march of progress was the public demand for faster, safer, more accurate methods of fueling automobiles. The gasoline pump fast began to supplant the bucket and funnel.

Hardware and grocery stores had long used a simple piston pump in filling the "coal oil" cans of their customers. It was an easy matter to adapt this pump, which threw out a gallon at each full stroke, to the merchandising of gasoline. A storekeeper would just attach a kerosene pump to his tank of gas, change the nomenclature to "gasoline pump" and—for safety—add a covering to the tank. A hose replaced faucet and measuring can.

Other improvements followed in short order: Larger pumps, which disgorged two gallons (or even five) at each full stroke, nudged aside the smaller models. Some marketers divorced pump from tank and shifted the latter below ground. Others added wheels to their gasoline tank, enabling them to trundle their products out to the curb. Many pumps acquired a bell which clanged with the delivery of each gallon—a device still in use. And then, about 1910, came another great step forward: a recording dial with a sweep hand to indicate the number of gallons dispensed.

That same year of 1910, say the historians, marked the advent of outdoor, multi-pump stations. Competi-

(Continued on Page 24)

Morning on the Square at Mier

ALONG THE RIVER ROAD

The road along the Rio Grande from Brownsville to Laredo threads through a land rich in the history and beauty of two nations

WHO can say where Mexico ends and Texas begins?

"At the Rio Grande," is the natural and geographically correct answer. But such a precise dividing line exists only in contemplation of law. In manner and customs and a way of life, divisions are less finely drawn. Such is the result of a policy of cooperation and friendship that permits peoples of both nations to move back and forth across the boundary almost at will.

Along the 200 miles of River Road from Brownsville to Laredo, all seems made of a common cloth. Language merges with language, custom blends with custom, legend mingles with legend in an area of internationalism. Here is a land unto itself; a semi-tropical land of *fiesta* and flowers; a land where exotic fruits grow in front yards; a romantic land of moonlit patios, muted guitars, and the music of soft Spanish vowels. Here, *manana* is soon enough for anything. "All this rushing around, Senor . . ." They dismiss the idea with a shrug and a pained expression. "It gets one nowhere, and leaves so little time for the *siesta*."

Starting the Trip

Leading out of Brownsville westward along the Rio Grande on Highway 281, the River Road follows the historic route

Souvenir of Rio Grande City

traveled by Gen. Zachary Taylor and his troops during the Mexican War. By many, it is still called the Old Military Road. Off to the left loom embankments on the American side of the river. For *El Rio Grande del Norte*, peaceful and sluggish though it may be most of the time, at floodtide brims its banks and sweeps across the broad, flat acres near its mouth. Thus has it earned the title of "The American Nile."

Even before the traveler reaches La Paloma, the first settlement on the River Road, he is delighted with what he sees along the route. On either side are occasional *jacales*, picturesque huts fashioned from mud and sticks and often thatched with straw. Family burial plots brighten the edge of fields just inside the fenceline. Always spotlessly kept, their white stones gleam brightly in the Border sun, and their crosses sparkle with garlands of gay flowers. Community churches are frequent along the road.

An example is the small and old, but compactly beautiful, Santa Maria Church just east of the little town of the same name. And just across the road on the left is El Rancho Blanco, its main brick building glowing a mellow brown in the sunlight.

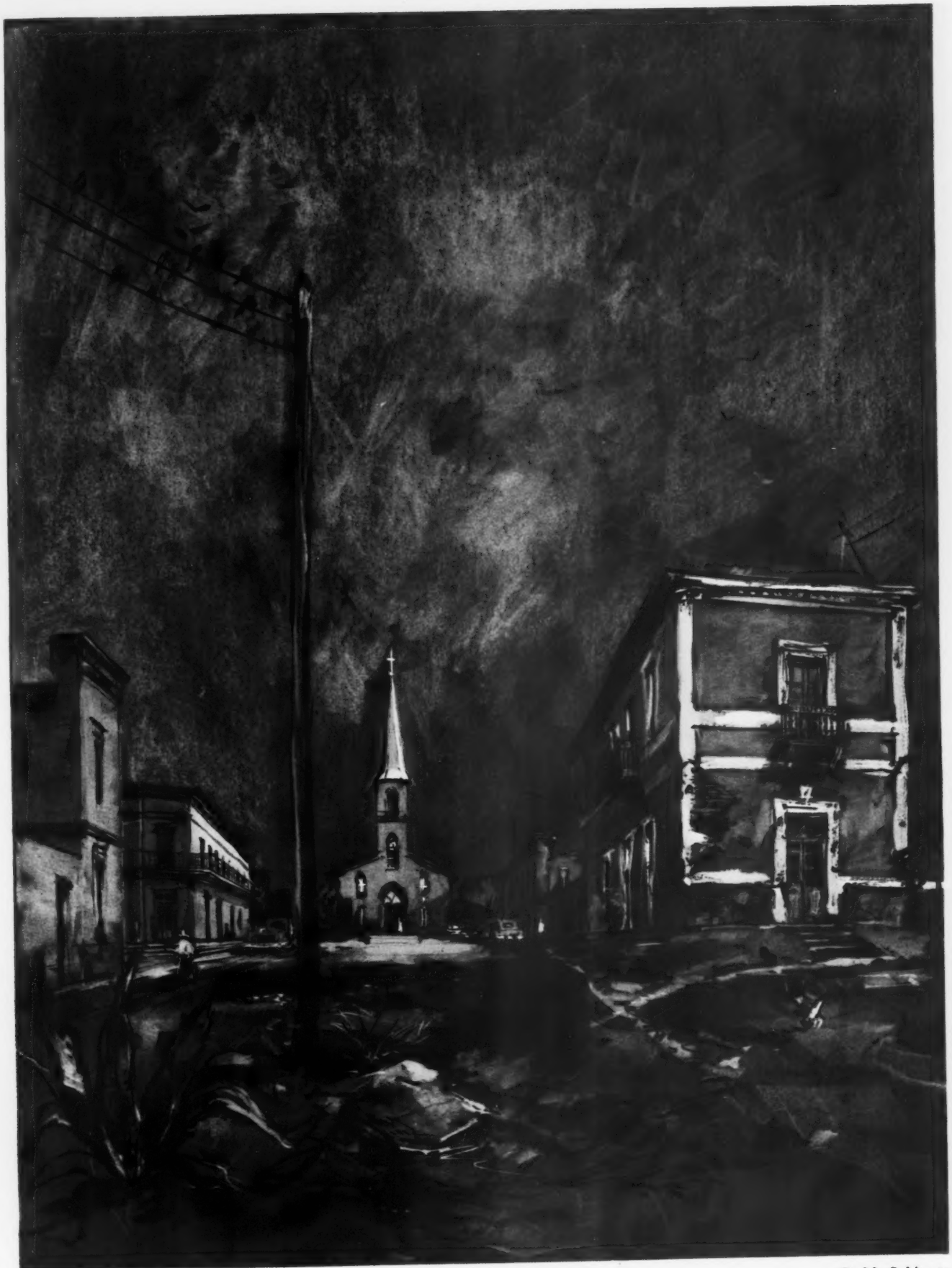
According to the present owner, this graceful old structure was once a Mexican fort, was later occupied by U. S. troops after the Mexican War, and served for a time as a stagecoach stop. He estimates the place, built of native clay moulded into bricks right on the premises, to be at least 130 years old. Legend has it that a tunnel once connected El Rancho Blanco to Santa Maria Church, so its people could cross over underground and worship without exposing themselves to Indians. In the old days, when the Rio Grande's course led right up to the ranch, steamships and other vessels from Brownsville tied up almost in the back yard, to be filled with cargoes of cotton and corn.

Gen. Taylor's Headquarters

Not far away, just to the left out of Santa Maria, a short road leads down the edge of an irrigation canal to a building that once was Gen. Taylor's headquarters. It is now used as a private residence. At the tourist's approach, children scamper out into the yard—soft-eyed, quick-smiling, warm-hearted youngsters—shy and curious at first, but eager to make friends. Press a few *centavos* into their hands, and they pose willingly for pictures. With the *turista's* coins, they will buy much *nieve y otros helados* (ice cream and other ice confections). As you leave, they sing out behind you, *"Vaya usted con Dios, Senor."* "Go with God." It is a friendly place.

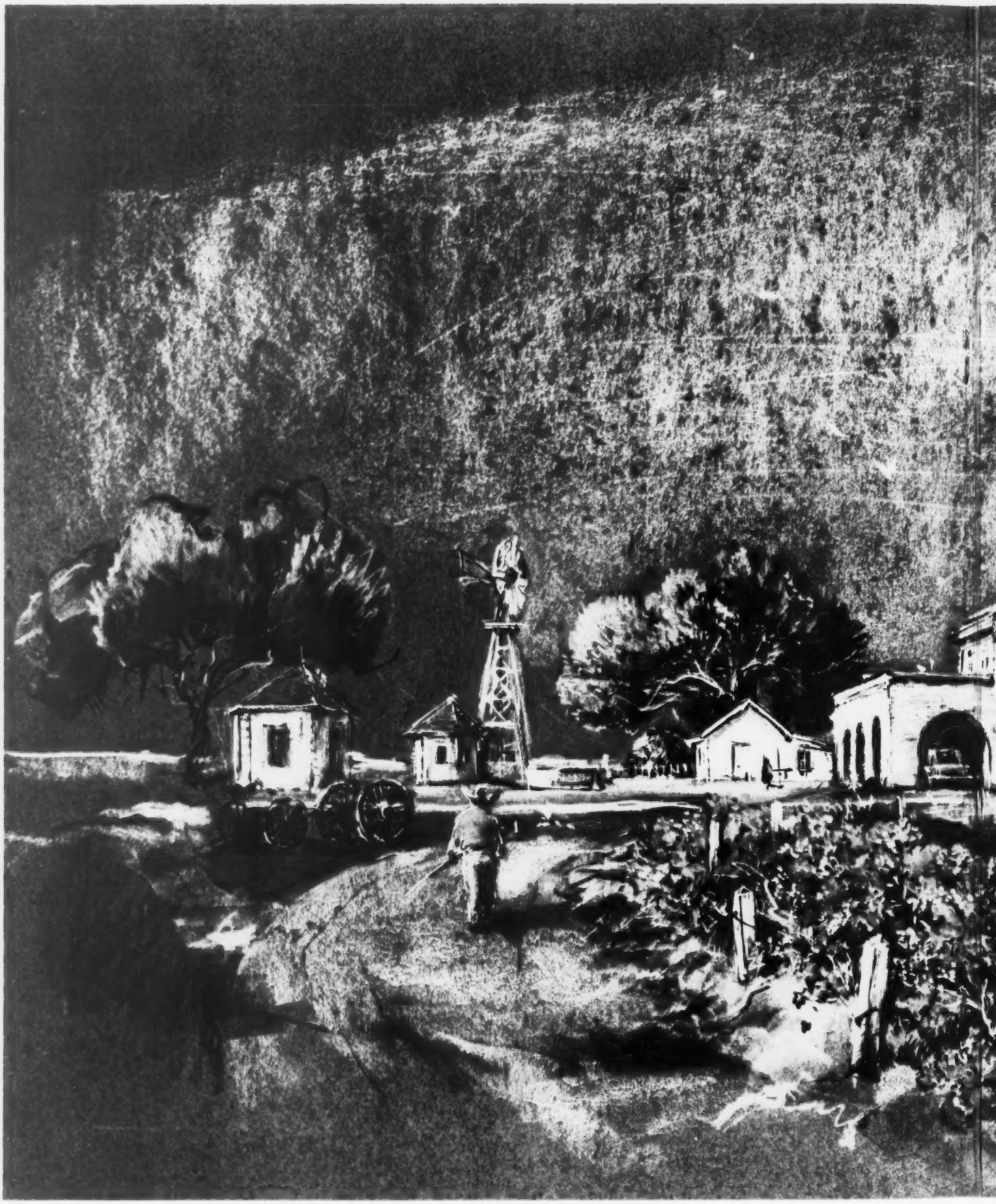
The River Road from Santa Maria leads on through the southern tip of the Rio Grande Valley—rightly called the Magic Valley—an incredibly fertile place where a second crop can be planted almost as soon as the first is harvested. As far as the eye can see stretch bright green rows of vegetables, the raw materials for a nation's salad bowls. Some fields are colorful canvasses in green and orange, where carrots have been pulled and laid out in rows for the loaders. Near others, the air bears sharp and pungent evidence of the onion harvest. Now and then, a vegetable field may be broken up with a citrus orchard.

One other scene is a hallmark of the Valley. Along the road in this area, the horizon is punctuated by criss-crossing lines of palm trees, *Washingtonia robusta* palms, their tall and

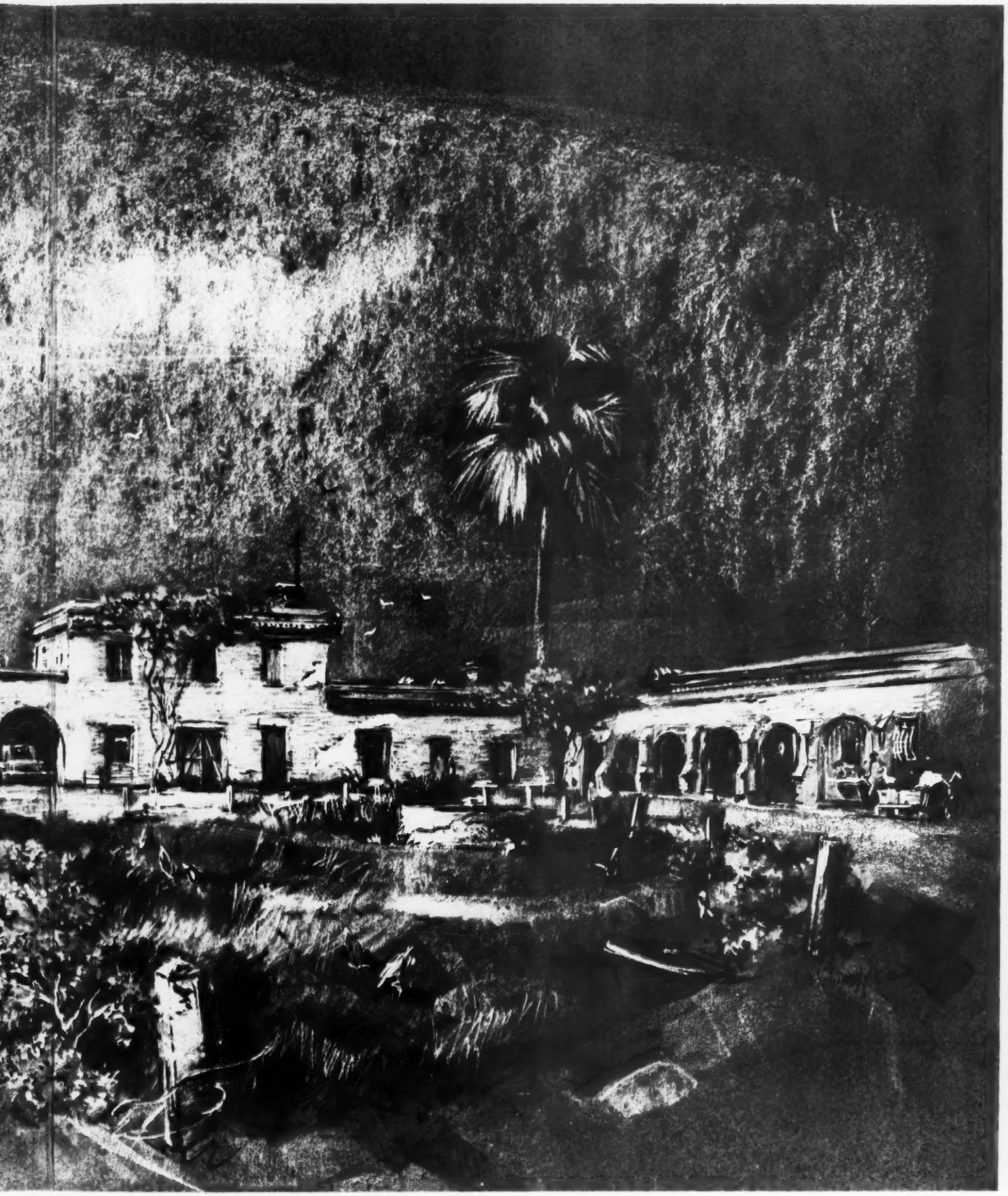


Siesta Time at Roma

E. M. Schiwetz



El Rancho Blanco



E. M. Schiwetz

Falcon Dam Construction

stately lengths topped by tufts of greenery. They march back and forth across the skyline like platoons of well-drilled infantry, never out of step, never out of line.

Dinner in Reynosa

On and on the road unfolds—on to Hidalgo, and to Reynosa, just across the river in Mexico. If the traveler arrives here at mealtime, so much the better, for Reynosa restaurants near the international bridge, like those of other Mexican border towns, are famous for their native dishes.

Jaded appetites perk up under the exotic goodness of golden *cabrito,* a succulent roast of young kid. For salad, there is *guacamole,* tastefully prepared from crushed avocado, onions, spices, vinegar and herbs. And for the venturesome palate, there are such appetizers as *jalapenos,* fiery green peppers, and an equally violent assortment of hot sauces.

In such places, a meal is almost a ritual, a thing to be enjoyed at leisure and at length—not just food to be eaten hurriedly. Waiters trained long in such service present everything with an Old World flourish, as if every guest were royalty. It is a thing to savor and remember long afterward.

Back across the river on the American side lies busy, bustling McAllen, where the River Road leaves Highway 281 and becomes Highway 83. Only a short distance westward lies Mission, with its huge citrus sheds and packing plants. Then comes a cluster of little places with Spanish names: La Joya, Penitas, Los Ebanos. Then comes Sam Fordyce and Sullivan, border "oil towns" where the familiar pattern of produce traffic yields for a time to trucks bearing loads of drill pipe and oilfield equipment.

Rio Grande City and Roma

Onward the road leads, through sparsely settled mesquite-covered country to Rio Grande City. The town here sprang up around Old Rancho Davis, founded in the late 1840's by Henry Clay Davis, Kentuckian and soldier of fortune who came into the region during the Mexican War. During its day, the rancho was another important stop for river boats plying the Rio Grande. Adobe houses and the iron-grilled balconies typical of border towns still remain to give the place an interesting flavor.

In the 18th century, some of the area around Rio Grande City was occupied by Spanish settlers under Jose de Escandon, a famous colonizer. Escandon's pet project was civilizing and Christianizing the Indians, and several missions were set up for that purpose in the area.

Westward the river leads to Roma. Like its Italian name-

Spring Morning at Zapata

On the Plaza at Guerrero

sake, Roma is built upon seven hills, and has a beautiful Old World look. The town rests high on a hill overlooking the river, and some of its buildings are built almost down to the water's edge. It was here that the recent movie *Viva Zapata* was filmed, a biographical sketch of Emiliano Zapata, the Mexican revolutionary leader.

At Roma, the tourist might do well to cross the river and visit the old Mexican town of Mier, only a short distance away over a gravelled road. Mier, with its colorful adobe buildings painted in pale pastels, its sleepy *plaza,* or town square, its ancient mission ruins, and its tall clocktower, is well worth the trip. It is associated in Texas history with the ill-starred Mier Expedition, which attacked Mier and eventually surrendered to a superior force. Later, when the prisoners attempted to escape, Santa Anna ordered every tenth man shot, their fate being decided by drawing beans from a bowl. A white bean meant life—a black bean, death.

At Roma, the River Road turns northward up the Rio Grande. Here the way leads through hill country, where cactus, mesquite, thorny chaparral, and purple sage struggle for existence in the rocky soil. About halfway to Zapata, on the left, work progresses on the great Falcon Dam project, a joint undertaking of the United States and Mexican governments. The dam will provide water for the Lower Rio Grande Valley, a blessing during dry seasons. A $40 million project, the dam is expected to be completed in 1953. Its reservoir, when full, will be some 30 miles long and several miles wide, an immense body of water in a land where water is an unusually precious commodity.

On to Zapata and San Ygnacio

Zapata, county seat of Zapata County, was named for Col. Antonio Zapata, a prominent stockman. It was probably the outgrowth of another Escandon settlement in the area around 1750. This was at Revilla, now Guerrero, Mexico. A stone in the plaza at Zapata testifies that in the vicinity was the site of Mission Revilla a Visita, established in 1750 as one of Escandon's colonizing projects. Like the nearby towns of Lopeno and Falcon, Zapata will be inundated by waters of the Falcon Dam reservoir.

Some 15 miles farther on is the picturesque village of San Ygnacio, settled in the latter part of the 18th century. Nearby was founded the settlement of *Nuestra Senora de los Dolores* under the sponsorship of Jose Vasquez Borrego, a Coahuilan cattle king.

An hour or so of exploring the narrow, sandy streets of San Ygnacio will be well spent. Some of the buildings are treasures of simple Spanish architecture. Just across from the post office—which perches on a ledge just above the Rio

San Ygnacio Street Scene

Grande—is an old stone fort, virtually in ruins but still occupied as a residence. During the old days, townspeople gathered behind its 8-feet-thick walls during Indian attacks.

An ancient and unusual sundial still rests in perfect condition above one of the fort's gateways. Figures of the hours are carved on both faces of the dial and a hand-hammered rod, shaped like an arrow, passes through its center. The whole device is so slanted that the arrow's shadow shows the time of day on one side of the dial for six months of the year, and on the other side during the remaining six months. The dial is so accurate one can almost set a watch by it.

On to Laredo

From San Ygnacio, the River Road leads out of the *mesa* country toward the generally more level area that surrounds Laredo. During much of this stretch, the Rio Grande flows so close to the road that only a high bank shields it from view. At one point, a roadside park provides an observation platform on a hill above the river, where travelers may stop, rest, and look over into the blue haze of the Mexican borderland.

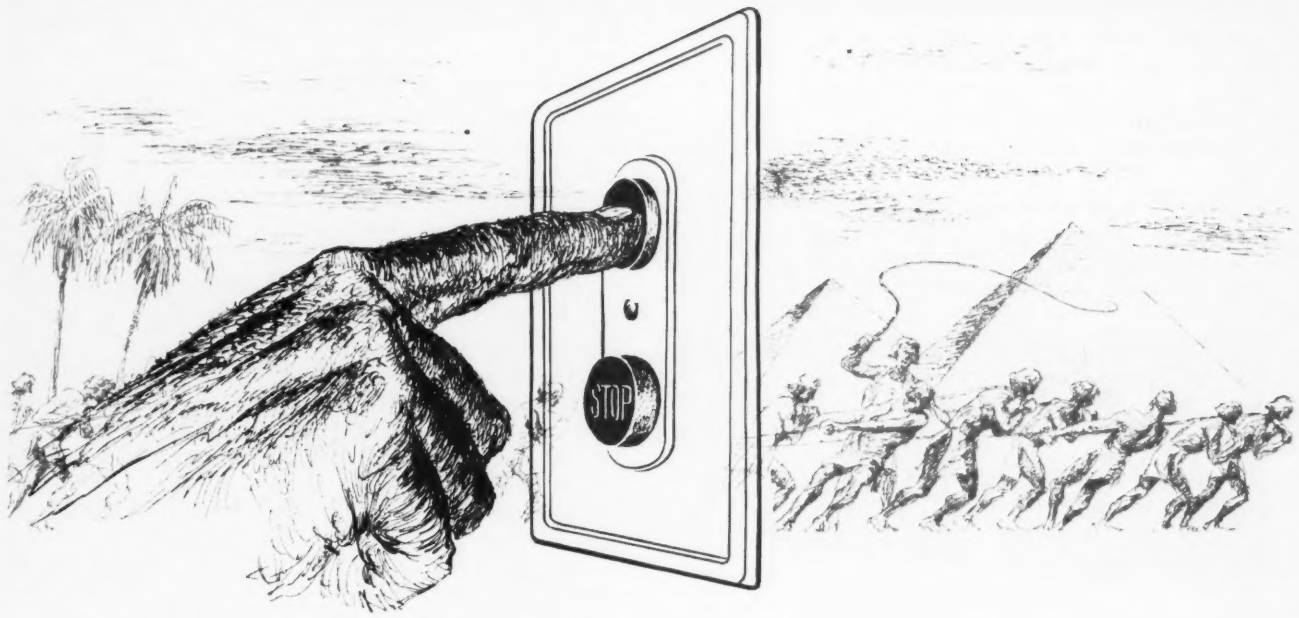
The rest of the way is onion country. During harvest season, pickers and cutters swarm like diligent ants across the fields, filling thousands of baskets with the white and yellow beauties. Acre after acre, mile after mile, the countryside seems a solid mass of baskets filled with onions. It seems incredible that the whole world could produce enough soups, stews, and salads to use them all. For one who loves onions, the air is an essence of pure delight. One who does not can only think of pleasanter things.

At last, around the bend, lies Laredo. The 200-mile journey ends at a 200-year-old city. It is really two cities, for only the Rio Grande separates Laredo from Nuevo Laredo, its sister city in Mexico.

When Tomas Sanchez established his town on the north side of the river in 1755, he was founding a place destined to become one of the major gateways between two friendly nations. Each year, floods of tourists flow both ways across the international bridge here, bound for vacationlands. As a result, the place seems always in a holiday mood.

The two Laredos, with their colorful scenery, their gay *fiestas,* their romantic settings, and their zest for life make a fitting place for the traveler to rest and savor again the beauty he found along the River Road.

Composite of Laredo



POWER FOR PROGRESS

By RICHARD J. GONZALEZ,
Director, Humble Oil & Refining Company

PROGRESS in man's struggle to raise living standards above a subsistence level has been faster and greater in the United States within the past fifty years than in all the rest of recorded time.

By comparison with the life in our own country in 1900 or in other countries today, our advance during this century has been remarkable.

Among the things we take for granted are electric lights, good plumbing, refrigeration, central heat, telephones, automobiles, airplanes, radio, television, and scores of useful appliances in the home. Our parents would have considered themselves fortunate to enjoy even a few of these comforts, but we expect to have all of them for the great mass of people.

We in America seldom realize how much better off we are than most of the people in the rest of the world. Occasionally newspaper accounts of famine and starvation in the Orient make us aware of the vast differences in our economic welfare. Even in normal times, however, life is hard for many people throughout the world. For example, the American Geographical Society describes the life of the poor Egyptian as follows:

> "For the fellah, life is hard. His tools are those of his ancestors—the hoe, the wooden plow, the hand sickle, and the threshing board. His dwelling is a crude, fly-infested, two-room mud hut sheltering family, water buffalo, and chickens alike. He owns little clothing and knows few comforts. He depends on the Nile for both drinking water and sewage disposal, and his wife and children collect dung for fuel. Like three-fourths of his countrymen, he is afflicted with disease."

Life such as that described in Egypt is not far different from what it was two thousand years ago. Yet, Egypt had universities and a high civilization when this country was still a wilderness. From this fact we can only conclude that progress is not inevitable, as we sometimes are inclined to think.

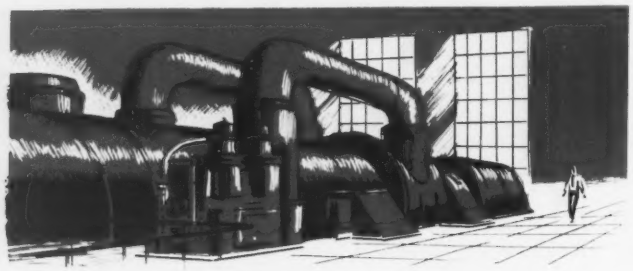
How does it happen that we have progressed so rapidly and enjoy so much in this country? A large land area with free trade and common laws has been important, but other countries have had the same conditions, without similar progress. The frontier may have been a factor, but we have continued to make rapid progress since its passing about 1900. Natural resources have helped, but other areas more abundantly endowed with resources have lagged far behind us. If these apparent differences do not explain our success, what are the factors that account for our progress in the past and are indispensable to our continued progress for the future?

Freedom, education, machines, and energy have been the major forces responsible for the high standard of living we enjoy today. Freedom and education are of the utmost importance. Without them and their underlying spiritual philosophy, the powerful force of individual initiative is crushed and almost lost. But they are not enough. What man can do with his hands and muscles is limited. For economic progress we must have machines and energy to

multiply man's productive efforts.

Machines do many things for us. On the farms they cultivate the land and harvest the crops. In industry they make goods in great quantities. They are our means of modern transportation for goods as well as the magic carpet of millions today. In our homes machines perform many tasks.

Productive machines are not operated by human energy. They would stand idle but for mineral energy available in great quantities at low cost. The more machines and energy we have, the less work individuals must do. Thus, we can



enjoy today both a much higher standard of living than did our parents in 1900 and more leisure. This is truly the age of energy. We must have increasing supplies of energy at reasonable cost if we are to continue our economic progress.

We in the United States use an enormous amount of energy to do our work. We use ten times as much mechanical energy per capita as the people of the rest of the world. It would take two hundred servants to equal the work which machines do for the average family of four people. Machines and energy do more for us than servants could, and perform their work at a cost that most of us can afford.

Energy from Petroleum

We are even more fortunate with respect to liquid fuel than energy as a whole. In the United States we use daily two gallons of petroleum products per person, or twenty times as much per person as in the rest of the world. In 1951 our domestic petroleum consumption of nearly two and a half billion barrels represented about 60 per cent of the total for the world. The abundance of oil we use provides us with the mobile power indispensable to a productive economy, with automatic heat, and with much of the energy for industry and electric power.

Our great advantage in energy over the rest of the world has come particularly from the remarkable development of oil and gas production. The United States has produced to date about two-thirds of all the oil produced in the world. A large part of the oil and gas resources found elsewhere in the world has been discovered by Americans with the technology developed in this country.

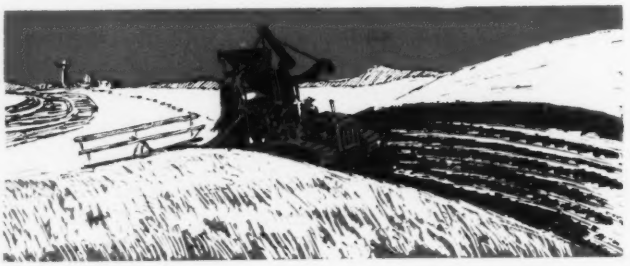
Since 1920, oil and gas have supplied all of the increase in energy used in the United States, while the production of coal has actually decreased in amount. Consequently, oil and gas have displaced coal as the principal source of energy in the United States, and now supply about 60 per cent of our mineral energy. Expansion of oil and gas supplies has been a major factor in our extraordinary economic progress.

It is not a matter of chance or luck that the United States has experienced such a remarkable increase in supplies of oil and gas. Mineral resources have existed beneath the surface of the earth for millions of years, but only recently have they been developed and utilized through man's initiative and ingenuity. Our system of competitive enterprise, by the incentive it provides through permitting operators to realize and keep an adequate profit from their successful ventures, has encouraged the development of resources. Without such incentive, the expensive and hazardous search for oil would never have been carried on as aggressively as it must be to find the oil we need.

Few people realize the odds against which an operator must carry on the long, hazardous, and expensive search for oil. There are only meager surface indications as to the possible location of oil underground. Generally we must look for oil buried at depths of 3,000 feet or more, and sometimes deeper than 15,000 feet. Some clues as to deeply buried strata that may contain oil are provided by scientific exploration, such as geology and geophysics. These scientific methods are very expensive. They lead to the leasing of acreage at considerable expense, only a minute fraction of which proves productive. The great bulk of the acreage leased is surrendered, with the loss of all the money spent on it in exploration and unsuccessful drilling.

Of the exploratory wells drilled in the search for new fields, only one in nine finds production and only one in forty-four finds a field with a million barrels or more. In other words, only one exploratory well in forty-four finds a field with more oil than we consume in four hours. Obviously, these statistics mean that the industry must drill thousands of exploratory wells every year. In 1951, nearly 6,500 wells were drilled in the search for new fields and some 5,500 were drilled in the search for extensions and new zones in known fields.

Even the discovery of production, encouraging as it is, marks only the beginning of efforts required to realize revenue to recover all the money spent in exploration and drilling. Once a field has been found, other wells must be drilled to develop production. Many small fields found prove so poor that they may lose money or not much more than cover their costs. What profits are realized come from

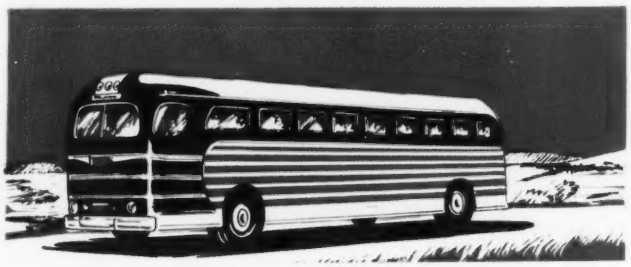


the better fields over a long period of years after meeting operating expenses and recovering the initial investment. Twenty or more years of operation are required to produce the bulk of the oil from most fields.

Against great odds in exploration and drilling, billions of dollars must be risked annually to replace the oil we use. Expenditures for drilling and equipping wells exceed two billion dollars, and in addition large amounts are spent in exploration that precedes drilling. The industry must look

to the successful wells to recover not only the capital invested in them but also the money spent and lost on all the other ventures. This basic economic characteristic of the search for oil means that more capital must be recovered from productive wells than is invested in them if the search for oil is to continue.

Since two dry holes are drilled for every three producers, an average producing well must pay not only for itself but



also for two-thirds of a dry hole and for its pro rata share of exploration costs. This fact determines the nature of depletion provisions for oil and gas in our income tax laws.

Oil and Gas Depletion

The principle of depletion involved in the production of natural resources is universally recognized. Depletion differs from depreciation. It relates to the using up of a natural resource, not to the depreciation of a physical asset which can be offset by maintenance. The capacity of an oil well declines from the beginning of its life until production ceases, quite unlike the capacity of a manufacturing plant which can be kept up by maintenance. As the oil is depleted, the capital value of a producing property declines. Income tax laws must make allowance for this depletion in order to avoid the taxation of capital as though it were ordinary income. The capital value depleted by production is not measured by the money invested but by the amount and price of the oil.

Despite the general acceptance of the need for recognition of depletion, various attacks have been made on the amount of depletion allowed on oil and gas production. These attacks have been based on the use of selected statistics and hypothetical examples which do not present an accurate picture. They have sought to stir up emotional prejudice without regard for the basic economic facts involved.

Attacks on depletion are generally based on the argument that it amounts to more than the money actually invested in producing wells and is therefore too large. Under the hazardous circumstances that exist in petroleum production, as already demonstrated, it is perfectly clear that producing oil and gas wells must return more than the capital invested in them. The deduction of dry hole costs and some exploration expense in calculating income subject to taxes does not provide a source of income to recover the capital lost. The only chance to replace all of the capital risked and to make a profit on it is from the successful wells. Consequently, operators must recover from successful wells more than the money invested in those wells in order to break even or make some profit.

Probably the basic misconception which leads some people to think that depletion for oil and gas is too large is the idea that oil production is a fabulously profitable business. The stories in the press and in fiction are limited to the most successful individuals, with no mention of the average operator in the petroleum industry or of the losses that occur every day.

The following illustration of the manner in which the profitability of the petroleum industry is exaggerated appears in the pamphlet "Tax Loopholes" by Senator Humphrey.

> "Take the case of an oil well in which $1,000,000 was invested. Suppose the well produces $5,000,000 of oil for each of 10 years. The owner can deduct 27½ per cent each year, or $1,375,000. In the ten years he deducts a total of $13,750,000 or almost fourteen times the amount he actually invested."

The quotation starts out with a reasonable assumption but ends up with a gross exaggeration. Some wells cost a million dollars or more, but no well in the United States produces anywhere near the amount of oil which Senator Humphrey has used in the illustration. The average oil well in the U. S. produces less than one per cent as much as Senator Humphrey's hypothetical example. To realize a gross revenue of $5,000,000 a year for ten years a well would have to produce 2,000,000 barrels of oil a year, and the total of 20,000,000 barrels in ten years. There are no such wells in the United States, if anywhere in the world. The average well does not bring back to the operator fifty times the investment. On the contrary, the relation between gross revenue and investment is quite different as shown by the experience of the industry in recent years.

Statistics of the American Petroleum Institute show that in the past three years 1949-1951, the total new oil developed through discoveries, extensions, and revisions amounted to only 80,100 barrels per well drilled. Even if we ignore all of the dry holes and look only at the oil per productive well drilled, we find an average of 145,400 barrels. At present price of about $2.50 a barrel, the gross revenue of the oil found and developed per total well drilled would be about $200,000. The maximum percentage depletion of 27½ per cent would be $55,000 per total well, and the

average would be much less because most wells would enjoy the maximum for only part of their life. Average expenditures for exploration and drilling currently are a great deal more than $55,000 per well. Consequently, it takes depletion in addition to other provisions with respect to recovery of drilling costs to provide a reasonable oppor-

Power is indispensable for our progress.

Oil and gas are our most important sources of power.

Therefore, our continued progress depends upon adequate supplies of oil and gas for the future.

tunity for profit in oil production. These provisions do not assure a profit. Much money is lost every day on exploration and drilling even by the most successful companies.

Results Prove Reasonableness

The profits on petroleum operations have also been greatly exaggerated by reference to selected samples which include only highly successful corporations. Authoritative statistics on corporate profits by industries indicate that in the period 1938-1951 producing and integrated petroleum companies averaged a return on their net worth of 12.4 per cent, compared with 12.8 per cent for manufacturing and 13.5 per cent for trade. Net worth in the case of oil and gas producing companies fails to include any of the money spent on exploration and dry holes, and to that extent is an understatement of the capital risked and an overstatement of the rate of return by comparison with manufacturing and trade corporations which do not have similar losses.

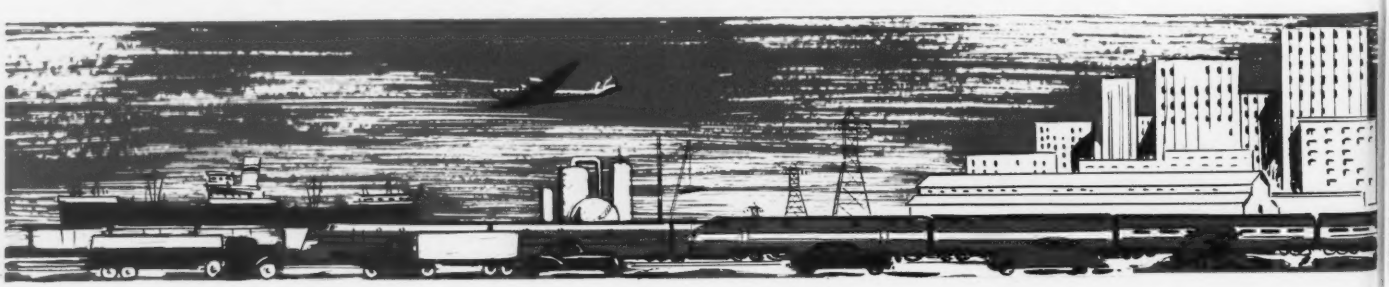
An inescapable economic answer to the argument that profits have been too high in petroleum production and that depletion allowances have been larger than necessary is to be found in the relative supply and demand for petroleum. If the rate of profit had been too high, more capital than needed would have been attracted into the search for oil and available supplies would have become much greater than demands. Such has not been the case. Available supplies have been quite close to demand. As recently as 1948 we were concerned with a shortage of supply. Capacity today is not as large as government officials want in order to provide a reserve for emergencies. Obviously we have not built up too much productive capacity for oil and gas in the United States. Therefore, profits cannot have been too large. The function of profits is to attract into the business the amount of capital required to satisfy demands. In that light, the rate of profit for the petroleum industry with present depletion provisions has been sufficient only to bring in the capital needed to keep pace with the needs of the nation.

A reduction of percentage depletion would unquestionably mean an increase in taxes on oil producers. An increase in taxes would mean a decrease in profits and a decrease in the amount of capital attracted into the search for and development of new oil. As a result, the rate of development of new oil supplies would be reduced and shortages of petroleum products would develop. Higher prices might serve in part to restore an incentive to develop new oil, but the balance between supply and demand would necessarily be established at a higher level which would cut out of the market part of the demand. To reduce the supplies of oil and gas available for our machines, our homes, and our cars would be to build a barrier to further economic progress. Furthermore, price would not provide the same incentive for risking capital as the present system, because depletion amounts to an added incentive for the efficient discoverer of oil.

Depletion provisions have stimulated the search for oil sufficiently to provide us with the petroleum products we need at low prices. The price of gasoline, exclusive of taxes, is now about the same as it was in 1926, whereas commodity prices generally are much higher. The price structure of the industry has been completely adjusted to the tax provisions in effect for more than a quarter century. Any alteration of the tax provision would have a profound impact upon the economics of costs and prices for crude oil. Inevitably, the burden of higher prices and the disadvantages of reduced supplies for oil would fall upon all of us as consumers and act as a handicap to our opportunity for further economic progress.

Depletion Provisions Should Remain Uniform

At times the argument is advanced that percentage depletion is necessary for small operators because of the



Economic incentives are needed to develop adequate supplies of oil and gas.

Existing depletion provisions contribute to providing adequate incentives.

Therefore, existing depletion provisions are essential to our economic progress.

risks involved, but not necessary for large companies because the size of their operations eliminates the risk. Such arguments show a complete misunderstanding of the nature of risks in the oil business. To the extent that they are engaged in the search for and development of oil, all operators encounter exactly the same risks regardless of the scale of their operations. A company drilling a larger number of wells is bound to hit some production, but there is no assurance with respect to the rate of success or with respect to the amount of oil discovered and developed relative to the money risked. The oil business is not comparable with insurance in which dollars are paid as premiums on the basis of expected mortality tables and dollars are received in return in specified amounts. In the case of the oil business, producers are risking billions of dollars without any assurance with respect to the amount of barrels they will find, develop, and produce over the next twenty years or the money which will be realized from such operations.

The large companies are taking exactly the same risks as the small ones but on a much larger scale. They spend more money for exploration and they undertake a large portion of the most expensive drilling. The proportion of successful wells to total completions fluctuates widely from year to year and from company to company. If large companies are to risk capital in the search for new oil supplies, they must have the same incentive as the smaller operators for taking similar risks. Risk in this case is a function of the amount of money spent and not of size. A small operator may risk very little capital and make a very profitable strike while a large company may risk a great deal of money and have less absolute or relative success than its small competitor who has spent only a fraction as much money. It is to the interest of the economy to encourage the successful discoverers and developers of oil regardless of size, rather than to encourage only the small operators regardless of efficiency. Percentage depletion recognizes that the contributions of operators to society are based on the amount of oil which they discover and develop. It is for that reason that percentage depletion has proved an important element in bringing forth the risk of venture capital and the development of adequate supplies of petroleum for the United States.

Conclusion

In 1926 the United States was worried about the adequacy of petroleum supplies for its future. Fortunately, those fears proved unfounded. The petroleum industry has exceeded all expectations of that time by increasing oil and gas production fourfold during the past twenty-five years. Unquestionably, the wise tax laws adopted by Congress with respect to taxation of oil and gas production have been a major factor in providing us with increasing supplies of petroleum at reasonable prices.

Petroleum supplies are more important to us today than ever before. They are absolutely indispensable to our national security and our standard of living. We cannot help but be interested, therefore, in seeing that petroleum supplies continue to be adequate for the future. We cannot afford to gamble on our national security and economic progress. With the present great burden of expenditures for national defense, our opportunity for continued economic progress depends primarily upon increased productive capacity that can only come from the use of more machines and power. Liquid power from petroleum products, in particular, is of strategic importance for the foreseeable future in the struggle for world peace and progress.

Adequate supplies of liquid fuels depend upon reasonable economic incentives, and present depletion provisions contribute to these incentives. Therefore, existing depletion provisions are essential to our economic progress and national security. We cannot escape the conclusion that we must continue these provisions in order to have power for progress.

"Fill Her Up!"

(Continued from Page 10)

tion became noticeably keener. Mindful of the value of advertising, many station owners began installing piston pumps which were lamp post tall and topped by a large glass globe. It was about this time, too, that service became a specialty of the trade. A Sunday motorist, stylishly accoutered in goggles and duster, could now rumble up for gas and expect to get his radiator and tires checked as lagniappe. Sometimes an attendant would even offer to crank his car. A broken arm, of course, became the badge of the unlucky.

Shortly after World War I, the gasoline pump underwent another metamorphosis. Shucking the gawky look of an earlier day, the pump acquired a glass bowl atop a cylindrical pump housing. Gasoline was pumped by hand (either with crank or lever) into the glass container. It was then allowed to flow by gravity into the car's gas tank—and woe betide the attendant who neglected to drain the hose!

The famous old "visible," which even today may still be seen along some of the nation's rural byways, came in several different sizes. The first ones had a capacity of two, three or five gallons, but later the 10-gallon size became by far the most popular.

Computer pumps began pushing the old-style visibles into the background in early Thirties. This picture from Humble files, dated 1931, show both types in service.

Nozzle control was added around 1920, reducing considerably the danger of overflow.

By the middle of the Twenties, America's automobile production had come within honking distance of four million cars a year. Registrations for 1925 showed 17 million cars, new and old, in service. Out of this tremendous growth situation came a constantly growing demand for gasoline—and for better service. This time the pump manufacturers responded with a motor-driven pump, and electricity took over from strong right arms with resultant benefits to both the station personnel and the public.

A few years later, in the early Thirties, the computing pump made its debut. This basically, was the same pump we have today—a mechanical wizard which shows the price per gallon, the number of gallons and fractions of gallons dispensed, and the total cost of the purchase. A later improvement made it a simple matter to reset the cost-figuring mechanism to conform to price changes. Another added feature made it impossible to start the pump until gallonage and cost-of-sale figures were flipped back to zero.

Progress-minded pump manufacturers are still seeking new ways to improve their products. One recent innovation is a lighted, moving advertising message built into the top of the pump—an eye-catcher similar to the famous news blinker in New York's Times Square. Another development is a remote control system which enables one master pump and motor at the rear of the station to serve several driveway outlets. Each dispensing pedestal, of course, still contains all the usual features such as the sightglass, showing the flow of gas, and the computing mechanism.

Humble owns approximately 15,000 gasoline pumps, 12,000 of these being in service stations and most of the rest on loan to consumers. A few 10-gallon visibles still survive (mostly on farms), but the great majority of the Company's pumps are of the most modern design.

Modern service stations are equipped with pumps which have more than kept pace with public demand for faster, safer, more accurate methods of fueling automobiles.

COURTESY

can save your life

Humble believes a stricter observance of the rules of common courtesy will do much to reduce the automotive accident rate

FINDING a theme for Humble's 1952 driver training program was no trouble at all. After a study of the Company's 1951 automotive accident experience, a theme jumped up ready-made right out of the statistics. That theme is *courtesy*.

Some breach of courtesy, by one driver or the other, contributed to 18 per cent of the 250 accidents involving Humble cars and trucks last year! Broken down by groups, 74 accidents were caused by *speed,* 70 by *lack of clearance,* and 58 by *trouble at intersections.* The other 19 per cent (48 accidents) was caused by distractions to the driver, struck animals, and equipment failures.

No Company driver involved in a "speeding" accident actually exceeded the legal speed limit. But in every case he was going too fast for existing conditions. Thirty miles an hour may be within the legal speed limit, but it is too fast when roads are slick with ice or rain. Disregard for or failure to recognize those conditions is discourteous to the driver's own passengers and to other motorists on the road.

Lack of courtesy contributed to the 70 accidents of the clearance type. Faulty backing was the chief trouble maker. It cannot be classified as anything but discourteous when any driver deliberately backs into another piece of property without first making sure that the way is clear. The same is true, only more dangerously so, when one driver attempts in moving traffic to squeeze through too tight a place. "Weavers" who snake back and forth on multi-lane highways are taking lives in their hands—theirs and the lives of others.

In a horse race, third place is called "show." In the race last year for the dubious distinction of leading accident categories, trouble at intersections won third place with 58 accidents.

And in this case, the word "show" is highly descriptive. Most accidents at intersections are caused by someone who wants to *show* the other fellow how fast his car is, how quickly his reflexes act, or how skillfully he can drive. Perhaps that is part of the average American's competitive spirit, to "get the jump on" the other fellow. But the courteous driver will yield the right-of-way, never *take* it.

Other aspects of trouble at intersections bear out the need for courtesy. Improper turning or failure to stop for a red light or a stop sign are traffic violations tinged with discourtesy. To the credit of Company drivers, not a one—all year long—was charged with failure to obey a stop signal! Nevertheless, four of them fell victim to accidents whenever others failed to do so. It seems safer never to *assume* that the other fellow will do what he is supposed to do.

DRIVER TRAINING THEMES

1950: Let each test himself.

1951: Split seconds separate minor violations from fatal accidents.

1952: Courtesy is contagious.

Training Pays Off

This year's driver training program is the third round in an annual program to reduce Humble's automotive accidents. It began back in 1950, when inventories were taken on a voluntary basis of drivers' weaknesses and deficiencies, with a view to letting each one examine his own and correct them.

Results were good. There were 63 fewer accidents in 1950 than in the preceding year, in spite of greater mileage logged by more vehicles.

A follow-up program was presented last year with even better results. Accidents were reduced to 250 in 1951, or 147 fewer than in 1949. That is marked improvement, but Humble thinks the accident mark can be brought still lower, especially the accidents to which lack of courtesy is a contributing cause.

Little may be done to keep drivers from becoming distracted when a bumblebee flies in the front window and creates havoc in the front seat. Small children will keep on darting out into traffic lanes, calling for extra alertness around schools, playgrounds, and residential areas. Equipment may fail occasionally, in spite of diligent check-ups. And no one can predict what a roadside animal will do at the split second a car whizzes past.

But a stricter observance of the rules of common courtesy will do much to reduce accidents caused by speed, lack of clearance, and trouble at intersections. And courtesy of this sort—a simple consideration for others' rights—spreads fast. The more people see of it, the more they practice it themselves.

This year, clips attached to sun visors of Company vehicles do more than serve as repositories for notes and receipts. Emblazoned on them in bold red type is a reminder to drivers that "Courtesy is Contagious."

Let's all try a little more of it. Courtesy can save our lives.

SPEAKING OF RECORDS FOR 1951

1. Humble—.39 accidents per 100,000 miles.

2. U. S. oil industry—1.22 accidents per 100,000 miles.

Seventeen Employees Retire

Six have 30 or more years' service; nine others have at least 22 years' service

SEVENTEEN long-time employes have retired since THE HUMBLE WAY last reported. Six of these have 30 or more years' service; nine others have 22 years or longer periods while one has 17 and another 19 years' service. Among this group of new annuitants, John J. Davidson, superintendent at Hardin District, has the longest period of service with his more than 34 years' association with Humble.

Humble Pipe Line Company—Earl C. Maddox, connection foreman at Odessa, retired September 17 after almost 32 years' service. Mr. Maddox started to work for Humble as a laborer at Pecos. Before he joined the Company, he worked for Ohio Oil Company and Standard Oil Company of Louisiana. His hobbies include baseball, fishing, and hunting. During retirement he plans to raise chickens on a ranch west of Odessa.

James H. Schubert, oiler at Benavides Station, retired October 14 after almost 27 years' service. Mr. Schubert joined Humble Pipe Line Company as a laborer and later worked as a line walker and oiler. He believes he holds a record for killing rattlesnakes while serving as a line walker and rider. At one time he had two quart jars full of rattles taken from snakes he had killed. He plans to live on a farm along the Colorado River near Bastrop and spend most of his time fishing.

Production Department—John A. Blackerby, office building maintenance supervisor at London, retired October 21 after more than 27 years' service. He was employed as a helper at Corsicana. Later he worked at Powell and London. He expects to raise vegetables, chickens, and flowers and will do some fishing on retirement.

Sam Boyd, rotary fireman at Friendswood, retired August 25 after more than 22 years' service. He has worked as a rotary helper, derrickman, driller, fireman, and engineman. He will live at a recently purchased home in Conroe.

Henry A. Busselle, lease pumpergauger at Gladewater, retired October 1 after more than 27 years' service. He joined Humble as a roustabout at Vernon. Later he worked at Pampa, Burkburnett, Kilgore, and Gladewater. Woodworking is his hobby. On retiring, he plans to work at his hobby and improve a 9½ acre place he owns near Longview.

John J. Davidson, district superintendent at Hardin, retired October 15 after more than 34 years' service. He was employed as a rotary helper at Goose Creek and later worked as superintendent and tool pusher. During retirement he will engage in farm management, cattle raising, and fishing.

Henry F. Henington, pumper-heavy duty at Avoca, retired September 12 after more than 30 years' service. All of his service with Humble has been in the North Texas Division. His special interest is ranching and during retirement he plans to raise cattle and hogs.

Frederick M. Kendrick, watchman at Gladewater, retired September 14 after more than 25 years' service. He joined Humble as a roustabout at Powell and later worked at Hurdle, Big Lake, and Gladewater where he has been since 1931. He takes an active interest in the work of his church. For recreation, he plays a skillful game of dominoes.

William M. Pate, lease pumpergauger at Hawkins, retired October 7 after more than 30 years' service. He began work with the Company at Mexia as a roustabout and later worked as fireman, engineer, gauger, and pumper. His interests include chicken raising, hunting and fishing.

Jerry B. Pinson, witness gauger at London, retired October 11 after 24 years' service. He was employed as a roustabout at Powell and later worked at Gladewater, Kilgore, and London where he has been since 1936. Gardening is his hobby. During retirement he will do some truck gardening and fishing.

Marvin W. Sterling, lease pumpergauger at Lovell Lake, retired October 18 after more than 29 years' service. He started to work with Humble as a rotary helper at Hull. Later he also worked in various capacities at Moss Bluff, Sour Lake, Goose Creek, Hastings, Segno, and Livingston. His special interests include his church activities. He owns a home at Warren, where he plans to raise livestock.

Baytown Refinery—Fred G. Hylton, tinner first, retired August 1 after 27 years' service. All of his time with the Company has been spent at the Baytown Refinery. He has been in the Sheet Metal Department as a tinner since 1945. He likes fishing, gardening, and traveling, and these special interests will occupy some of his time during retirement.

Andrew Johnson, laborer, retired August 25 after almost 17 years' serv-

Employees Recently Called to Military Service

	AIR FORCE
Atwood, Herbert Ross	Baytown Refinery
	ARMY
Andrews, Earl Ollice	Katy Gas Cycling Plant
Caldwell, Parris Jackie	Baytown Refinery
Dethlefsen, Raymond George	Pipe Line Accounting—Houston
Davis, Leo Absalom	Means Production
Dudley, John Edward	Cisco Pipe Line
English, James Allen	Pickton Gas Plant
Ewing, Robert Wynne	Baytown Refinery
Kisling, Charles Douglas	Conroe Gas Plant
Goddard, David Stephen	Katy Gas Cycling Plant
Grason, James William	Government Wells Production
Hakemack, Ollie Douglas	Katy Gas Cycling Plant
McFarland, Billy Joe	Stationery, Printing, Houston
Marlette, George S., Jr.	Louisiana Division Office
	COAST GUARD
Steib, John Roy	Paradis Production
	NAVY
Ladas, Nick John	Geophysics Research, Houston
Timmons, Felix Alexander	Baytown Refinery
Wiggins, Howard Franklin	Employee Relations—Safety, Houston
	MARINES
Blakely, George Elwood	Exploration-Geophysics, Texas
Jones, Franklin H., Jr.	Louisiana Division Office

ice. He started to work at the Refinery in the Labor Department and later worked at the Cracking Coils and at Fluid Catalytic Cracking Unit No. 2. He is a deacon and the oldest member of his church. On retirement he plans to continue his church work and take care of his home.

George W. Morris, field supervisor, retired September 1 after 31 years, service. Mr. Morris was employed as a laborer. He worked a short time as a compound helper before transferring to the Power and Water Department where he has spent the balance of his service in various capacities.

Albert R. Slaughter, carpenter first, retired August 15 after more than 19 years' service. Before starting to work at the Refinery, Mr. Slaughter worked in the Production Department as a carpenter first at London, Talco, Overton, and Gladewater. All of his service with the Refinery has been as a carpenter. Hunting, fishing, cabinet work, and working with crippled children are among his chief interests. After catching up on his fishing during retirement, he plans to do some traveling.

Meredith Ware, pumper, retired August 23 after more than 23 years' service. All of his service has been at the Refinery. He was employed as a helper in the Boilermaker Department and later worked in the Pipe, Pumping and Gauging Department. He will continue his gardening and flower-raising activities during retirement.

Houston Office—Kay Dupre, senior accountant in Production Accounting retired September 1 after 33 years' service. Most of Mr. Dupre's service with the Company has been in oil accounting and related work. In the early years, he was among the first few certified public accountants with Humble. He helped teach accounting under the Company's training program, and he received several Coin-Your-Ideas Awards.

Deaths

SINCE the last issue of THE HUMBLE WAY, thirteen active employees and seven annuitants have died.

Active Employees who have died are: David Bartlett, 33, reports and patent coordinator in Exploration-Geophysics Research in the Houston Office, on September 22; Alfred C. Bennett, 57, accountant in Production Accounting in the Houston Office, on August 31; John L. Burton, 63, assistant chief accountant in Production Accounting in the Houston Office, on September 20; Luther T. Campbell, 47, lease pumper-gauger at Maurbro District, on August 12; Samuel P. Conner, 34, gas plant operator at Katy gas cycling plant, on August 19; Daniel M. Fuchs, 37, painter first at Baytown Refinery, on August 25; Edward H. Lewis, 60, pumper at Baytown Refinery, on September 7; Jessie J. Losak, 46, pipe fitter first at Baytown Refinery, on October 6; Richard Simmons, 52, rod and tube hoist operator at Gladewater District, on August 20; James N. Smith, 58, division material pusher in Production Operating in the Houston Office, on September 20; George A. White, 51, field dispatcher and division chief dispatcher at Corpus Christi, on September 27; Jimmy W. Wiggins, 38, utility man at the Houston Fuel Oil Terminal, on August 31; Wendell W. Wood, Jr., 32, seismic computer in Exploration-Geophysics in the Houston Office, on August 15.

Annuitants: Ciriaco Aguilar, 73, laborer at Baytown Refinery before his retirement, died on August 17; Wess Frazier, 72, lease pumper-gauger at Conroe District before his retirement, died on September 28; George S. Gray, 75, local sales manager at San Antonio District before his retirement, died on September 8; Robert T. Mann, 69, utility man at the Houston Fuel Oil Terminal before his retirement, died on September 27; Oscar D. Nowlin, 77, gang pusher first at Baytown Refinery before his retirement, died August 21; Branch O. Richmond, 72, pumper at Hardin District before his retirement, died September 17; Gasper L. Waddell, 71, machinist first at Baytown Refinery before his retirement, died September 20.

Dr. Wise Joins Medical Division

Dr. Robert A. Wise joined the Houston Office Medical Division staff in October. As part of Humble's effort to promote the best possible health among employees, this addition will expand medical services in diagnostic and consultative medicine.

Dr. Wise received his A.B. degree from the University of Kentucky in 1932, and his M.D. from the Washington University School of Medicine at St. Louis in 1936. After periods of internships at St. Louis and Cleveland, he served as Junior Resident and later as Senior Resident of Tulane Medical Service of Charity Hospital, New Orleans.

His Army service included tours of duty at LaGuarde General Hospital, Ft. Bliss Station Hospital, and Beaumont General Hospital, El Paso. He has been chief of Medical Service at Veterans Administration hospitals in Temple and Houston.

Dr. Wise was Assistant in Medicine at Tulane University from 1938 to 1940. In 1949 he was appointed Assistant Professor of Medicine at Baylor University College of Medicine, Houston, and in 1950 was promoted to Associate Professor. He holds a fellowship in the American College of Physicians, and memberships in city, county, state, and national medical associations and societies. In 1943, he was awarded a diploma by the American Board of Internal Medicine.

Dr. Robert A. Wise

He was elected to Phi Beta Kappa at the University of Kentucky, and to Alpha Omega Alpha at Washington University. Since 1940, he has written a number of papers for publication in various medical journals. During the year just past, he served as President of the Baylor Research Society.

Dr. and Mrs. Wise, who make their home in Houston, have two children—Allen, 11; and Ann, 6.

By the way...

TCU CONFERS LL.D. UPON HINES H. BAKER

The honorary doctor of laws degree was conferred upon Humble President Hines H. Baker by Texas Christian University on October 1. On that occasion, Mr. Baker spoke on "Our Last Best Hope" before the annual fall convocation of the school.

Warning that America must buckle down for a finish fight if she is to save her freedom, Mr. Baker said that America faces grave dangers from without, but may face even greater perils from within.

Elaborating on that, he pointed out that "The pursuit of a promised 'security' may end up in subservience to an all-powerful state. . . . The individual in America may soon find the state no longer his servant but his master."

Mr. Baker expressed confidence that America will find its way, but cautioned that it faces a fateful choice. He quoted Abraham Lincoln: "We shall nobly save or meanly lose the last, best hope of earth."

PORTABLE PRESSURE GAUGE

Ordinarily, two gauges for measuring pressures are installed on each Christmas tree (the set of valves and pipes which keeps a producing well under control). Bad weather damages

them easily, however, and they rarely stay accurate long.

Humble men who do research on equipment found that an adaptor designed for a portable pressure gauge could be installed on each Christmas tree. One gauge could then be carried from well to well, fitted to the adaptor, and the pressure checked. More accurate readings are possible in this way, for the gauge is not exposed to the elements. In addition, the cost of maintaining gauges at each well is eliminated.

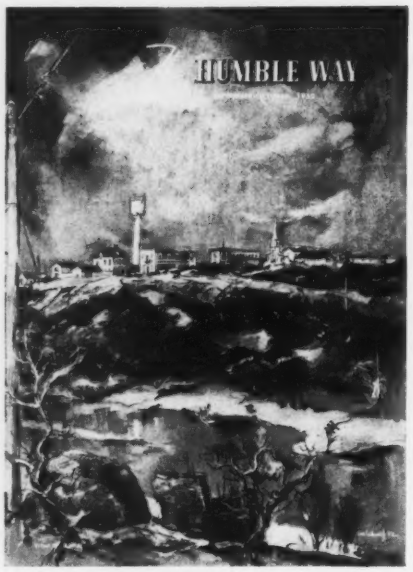
SALES DEPARTMENT MOVES

Late in October, the Sales Department, with the exception of the Advertising and Sales Promotion Division, moved from the Humble Building to new quarters in the recently completed Prudential Insurance Company of America building.

The Prudential Building is located on South Main Street in Houston, just across from the Shamrock Hotel.

THE COVER

Artist E. M. Schiwetz found plenty to inspire his pencils and brushes along the River Road from Brownsville to Laredo. His artist's eye was intrigued on all sides with flaming masses of bougainvillea, with the fertile greenery of roadside fields, and with the warm



tones of brick and stone glowing in the brilliant Border sun.

But he found his cover painting when he stood on the international bridge between Roma and San Pedro. Perched above the Rio Grande on the American side, Roma stands with an Old World beauty as changeless as the Eternal City rising above the Tiber.

In his front cover painting, Schiwetz presents Roma as it really is—a picturesque and lovely place.

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HUMBLE OIL & REFINING COMPANY

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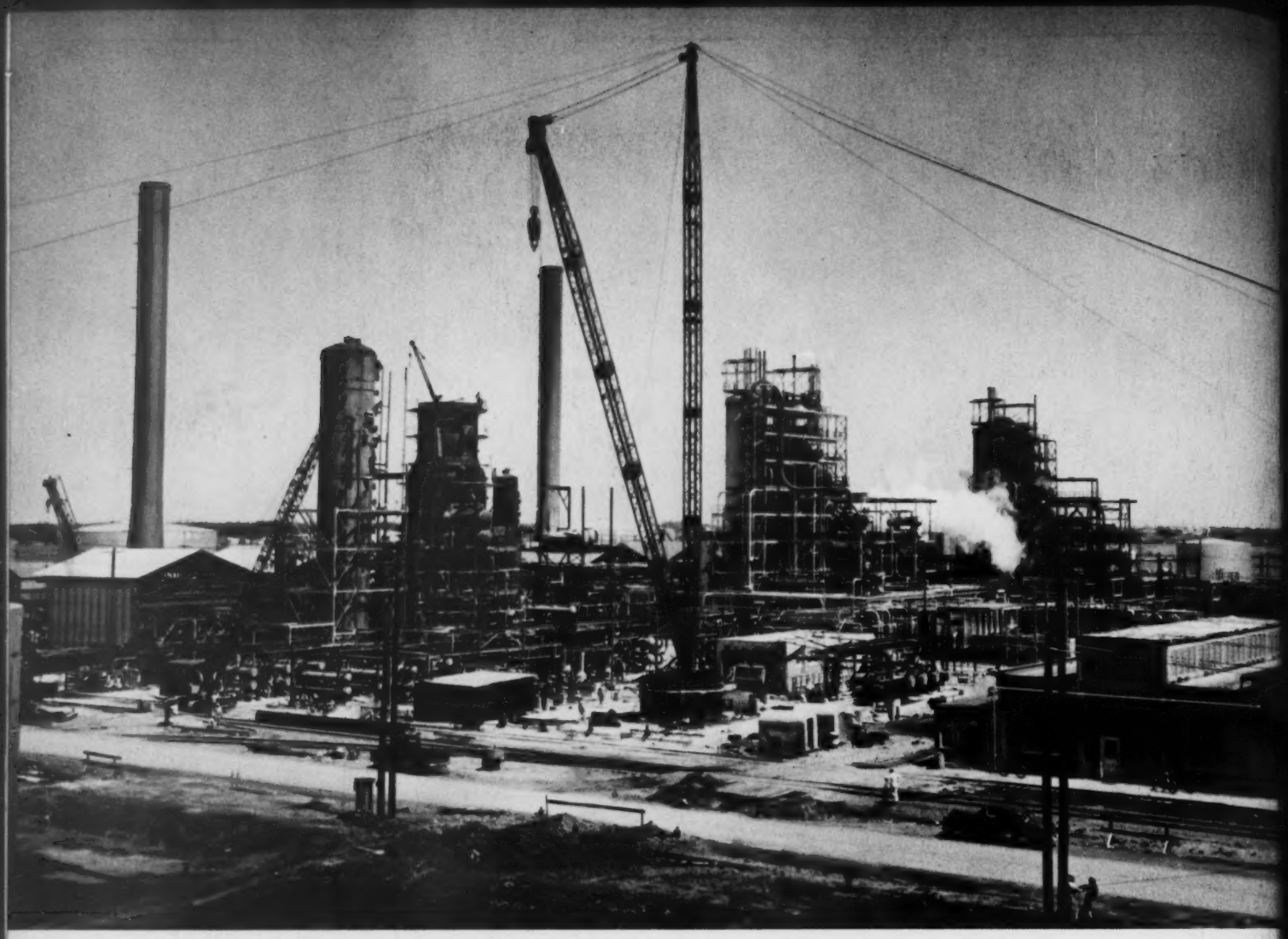
Courtesy, based on a knowledge of driving rules, can help reduce our high traffic toll. (See Page 25.)

HUMBLE



Job without end . . .

Construction scenes are a familiar sight at Baytown Refinery. Not a day passes without the steady ring of hammers, the insistent chatter of riveting guns, or the blinding flicker of welding torches.

For you never finish building an oil refinery. Public demand for more and better products mounts steadily. To make the most efficient use of equipment and supply that demand, it is often necessary to rebuild old units and build new ones.

So it is that construction work at Baytown Refinery never comes to a standstill. It is a job that goes on and on, without end.

HUMBLE OIL & REFINING COMPANY